

Method and Architecture for an Improved CMOS Color Image Sensor

Abstract

According to the principles of this invention, an improved CMOS image sensor is disclosed. The improved CMOS image sensor comprises a pair of controllable column and row decoders, a signal conditioning circuit and a pixel processor in addition to an array of photo sensors. With the pair of controllable column and row decoders, photo sensors can selectively and dynamically accessed to improve signal throughput for applications that do not require the full set of signals from the array of photo sensors. The digitized signals from the selected photo sensors can be processed in the pixel processor for auto focus, pixel signals decimation and interpolation, data conversation and compression. Consequently, the design complexity of an overall imaging system using the disclosed CMOS image sensor is considerably reduced and the performance thereof is substantially increased.